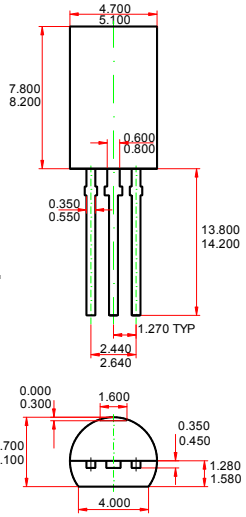
# 2SC2500

## TO-92L Bipolar Transistor (NPN)

1. EMITTER
2. COLLECTOR
3. BASE




**TO-92L**

## Features

- ✧ **Strobe flash applications**
- ✧ **Medium power amplifier applications**

**Dimensions in inches and (millimeters)**

### MAXIMUM RATINGS ($T_A$=25℃ unless otherwise noted)

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 30 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 10 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 6 | V |
| $I_C$ | Collector Current -Continuous | 2 | A |
| $P_C$ | Collector Power Dissipation | 900 | mW |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55 to +150 | ℃ |

### ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | $I_C$=1mA,$I_E$=0 | 30 | | | V |
| **Collector-emitter breakdown voltage** | $V_{(BR)CEO}$ | $I_C$=10mA,$I_B$=0 | 10 | | | V |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | $I_E$=1mA,$I_C$=0 | 6 | | | V |
| **Collector cut-off current** | $I_{CBO}$ | $V_{CB}$=30V,$I_E$=0 | | | 0.1 | μA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$=6V,$I_C$=0 | | | 0.1 | μA |
| **DC current gain** | $h_{FE(1)}$ | $V_{CE}$=1V,$I_C$=500mA | 140 | | 600 | |
| | $h_{FE(2)}$ | $V_{CE}$=1V,$I_C$=2A | 70 | | | |
| **Collector-emitter saturation voltage** | $V_{CE(sat)}$ | $I_C$=2A,$I_B$=50mA | | | 0.5 | V |
| **Base-emitter voltage** | $V_{BE}$ | $V_{CE}$=1V,$I_C$=2A | | | 1.5 | V |
| **Transition frequency** | $f_T$ | $V_{CE}$=1V,$I_C$=500mA | | 150 | | MHz |
| **Collector output capacitance** | $C_{ob}$ | $V_{CB}$=10V,$I_E$=0,f=1MHz | | 27 | | pF |

### CLASSIFICATION OF $h_{FE(1)}$

| Rank | A | B | C | D |
|---|---|---|---|---|
| **Range** | 140-240 | 200-330 | 300-450 | 420-600 |

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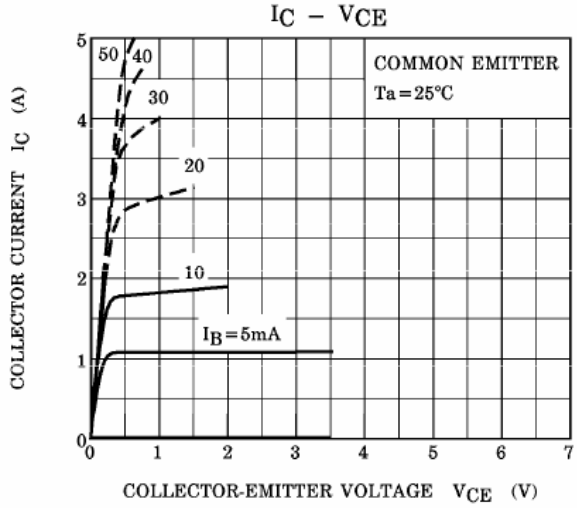
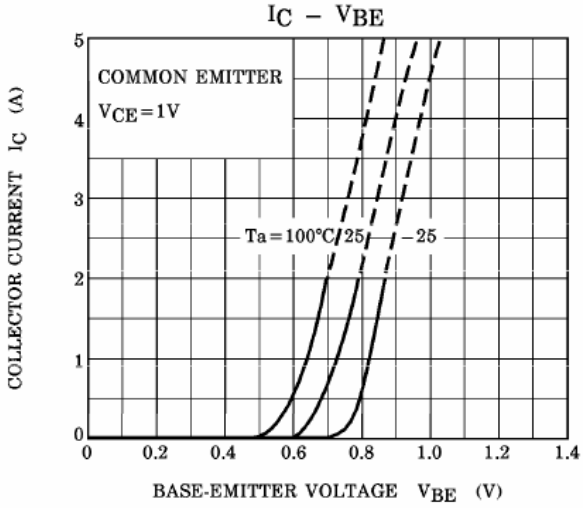
**TO-92L Bipolar Transistor (NPN)**

## Typical Characteristics

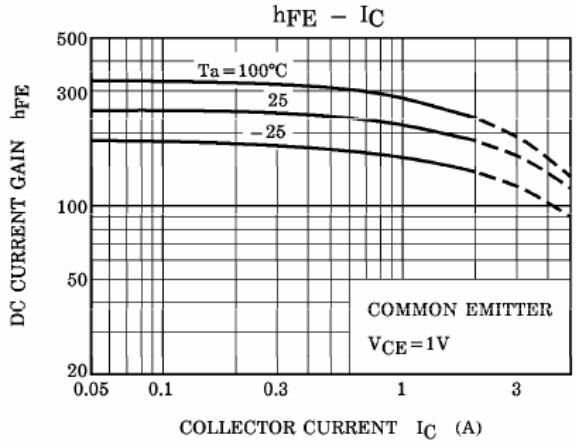
$I_C$ – $V_{CE}$



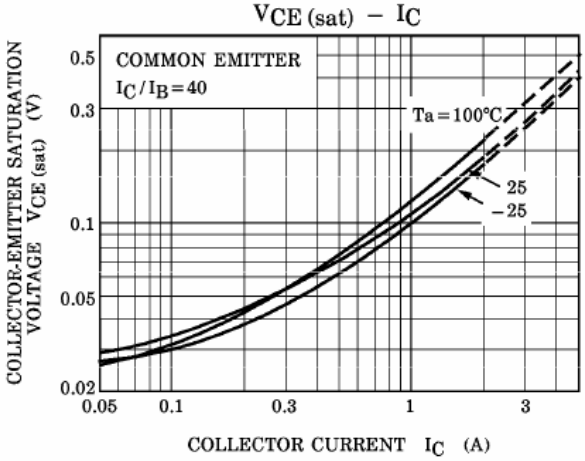

$I_C$ – $V_{BE}$



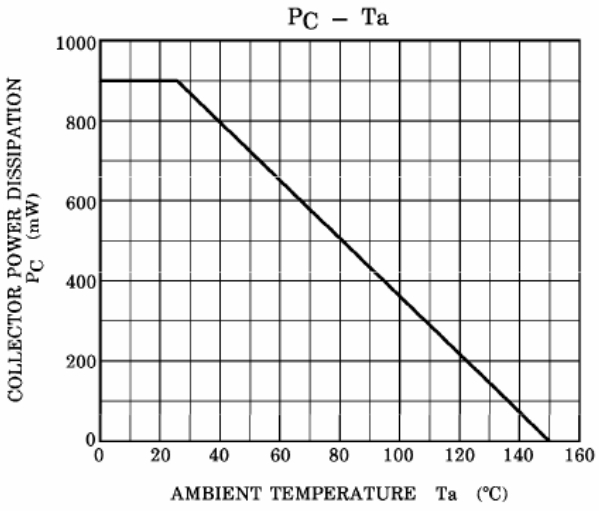

$h_{FE}$ – $I_C$



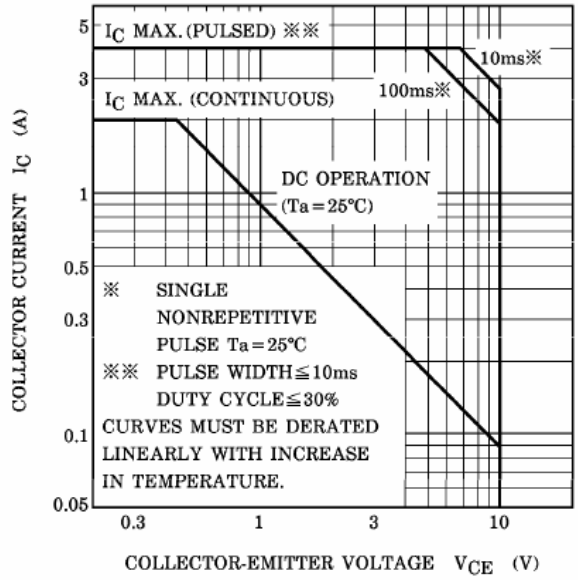

$V_{CE\,(sat)}$ – $I_C$




$P_C$ – Ta




SAFE OPERATING AREA




| Package | Packing | Quantity | Box | Box Size(mm) | Carton | Carton Size(mm) |
|---|---|---|---|---|---|---|
| TO-92L | Bulk | 500pcs/Bag | 5000pcs | 245×170×100 | 50,000pcs | 525×375×270 |
| TO-92L | Tape | 2000pcs/Tap | 2000pcs | 333×203×42 | 20,000pcs | 493×400×264 |